DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 69.28

WELDING INSPECTION REPORT

Resident Engineer: Pursell, Gary
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-006103
Date Inspected: 20-Mar-2009

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island

OSM Arrival Time: 645
OSM Departure Time: 1845
Location: Shanghai, China

CWI Name:	See Below	**CWI Present:**	☑ Yes ☐ No
Inspected CWI report:	☐ Yes ☑ No ☐ N/A	**Rod Oven in Use:**	☑ Yes ☐ No ☐ N/A
Electrode to specification:	☑ Yes ☐ No ☐ N/A	**Weld Procedures Followed:**	☑ Yes ☐ No ☐ N/A
Qualified Welders:	☑ Yes ☐ No ☐ N/A	**Verified Joint Fit-up:**	☑ Yes ☐ No ☐ N/A
Approved Drawings:	☑ Yes ☐ No ☐ N/A	**Approved WPS:**	☑ Yes ☐ No ☐ N/A
		Delayed / Cancelled:	☐ Yes ☑ No ☐ N/A

Bridge No: 34-0006
Component: Tower Fabrication

Summary of Items Observed:
CWI Inspector: Mr. Wu Ming Kai

On this date CALTRANS OSM Quality Assurance (QA) Inspector Mr. Paul Dawson arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China, for the purpose of monitoring welding and fabrication of the San Francisco / Oakland Bay Bridge (SFOBB) components. The QA Inspector observed the following:

Tower Bay 10

This QA Inspector performed random ultrasonic inspections of approximately 10 percent length of Lift 3 South tower skin plate C complete joint penetration butt welds SSD1-FDSA3-1B/C-9, SSD1-FDSA3-1B/C-17, SSD1-FDSA3-1B/C-26B-(1). These welds had previously been ultrasonically inspected and accepted by ZPMC inspection personnel. The QA Inspector observed the welds that were ultrasonically inspected by this QA Inspector appear to comply with AWS D1.5 UT requirements. For additional information on this inspection see the TL6027 Ultrasonic Test Report.

This QA Inspector performed random ultrasonic inspections of approximately 10 percent length of Lift 3 South tower skin plate A complete joint penetration stiffener butt welds SSD1-FASA3-1E/E-8 r1 and SSD1-FASA3-1E/E-40 r1. These welds had previously been ultrasonically inspected and accepted by ZPMC inspection personnel. The QA Inspector observed the welds that were ultrasonically inspected by this QA Inspector appear to comply with AWS D1.5 UT requirements. For additional information on this inspection see

the TL6027 Ultrasonic Test Report.

This QA Inspector performed random ultrasonic inspections of approximately 10 percent length of Lift 3 North tower skin plate E complete joint penetration butt weld NSD1-FDSA3-1B/C-11 r1. This weld had previously been ultrasonically inspected and accepted by ZPMC inspection personnel. The QA Inspector observed the weld that was ultrasonically inspected by this QA Inspector appear to comply with AWS D1.5 UT requirements. For additional information on this inspection see the TL6027 Ultrasonic Test Report.

This QA Inspector performed random ultrasonic inspections of approximately 10 percent length of Lift 3 North tower skin plate E complete joint penetration butt welds NSD1-FESA3-1A/D-1 r1. This weld had previously been ultrasonically inspected and accepted by ZPMC inspection personnel. The QA Inspector observed the weld that was ultrasonically inspected by this QA Inspector appear to comply with AWS D1.5 UT requirements. For additional information on this inspection see the TL6027 Ultrasonic Test Report.

The QA Inspector observed ZPMC welder Mr. Gao Qiang, stencil 057258 is using welding procedure WPS-B-T-2212-TC-U5B to make a shielded metal arc fillet weld on shear link weld WDI-A467-18M-3-1A. The QA Inspector observed ZPMC CWI Mr. Wu Ming Kai had measured Mr. Qiang to have a welding current of 231 amps and a travel speed of 161 mm per minute. QA Inspector observed ZPMC personnel had installed electric heaters to preheat the base material adjacent to where the weld was being deposited. Items observed by the QA Inspector appear to comply with project specifications.

The QA Inspector observed ZPMC welder Mr. Huang Zhao, stencil 056200 is using welding procedure WPS-B-T-2212-TC-U5B to make a shielded metal arc fillet weld on shear link weld WDI-A467-18M-3-1A. The QA Inspector observed ZPMC CWI Mr. Wu Ming Kai had documented that Mr. Zhao had a welding current of 226 amps and a travel speed of 173 mm per minute. QA Inspector observed ZPMC personnel had installed electric heaters to preheat and maintain the base material temperature adjacent to where the weld was being deposited. Items observed by the QA Inspector appear to comply with project specifications. See the photograph below showing Mr. Gao Qiang and Mr. Huang Zhao welding shear link assemblies.

Tower Bay 11

This QA Inspector performed random ultrasonic inspections of approximately 10 percent length of Lift 3 West tower skin plate D and E complete joint penetration butt welds WSD1-FESA3-2B/C-10, WSD1-FCSA3-2B/C-1-(2), WSD1-FCSA3-2B/C-8 and WSD1-FCSA3-2B/C-2. These welds had previously been ultrasonically inspected and accepted by ZPMC inspection personnel. The QA Inspector observed the welds that were ultrasonically inspected by this QA Inspector appear to comply with AWS D1.5 UT requirements. For additional information on this inspection see the TL6027 Ultrasonic Test Report.

This QA Inspector performed random ultrasonic inspections of approximately 10 percent length of Lift 3 East tower skin plate E complete joint penetration butt welds ESD1-FESA3-2A/D-8-1 r1 and ESD1-FESA3-2A/D-4 r1. These welds had previously been ultrasonically inspected and accepted by ZPMC inspection personnel. The QA Inspector observed the welds that were ultrasonically inspected by this QA Inspector appear to comply with AWS D1.5 UT requirements. For additional information on this inspection see the TL6027 Ultrasonic Test Report.

Summary of Conversations:

See above.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Serge Sinevod phone: 134-8257-0045 , who represents the Office of Structural Materials for your project.

Inspected By:	Dawson,Paul	Quality Assurance Inspector
Reviewed By:	Clifford,William	QA Reviewer